

REMARKS

Pending claims 1-21 are rejected in the Office Action (OA). Applicant respectfully asserts that the rejections are not well taken and should be withdrawn. Applicant provides detailed rebuttal arguments below, to support this assertion.

Claims 1-6, 8-13, and 15-20 are not anticipated

The rejected claims include independent claims 1, 8, and 15, each of which is rejected as anticipated by Malkamaki (U.S. Patent No. 5,577,024. Malkamaki anticipates these claims only if it teaches each and every limitation of them, in the identical arrangement as claimed. Against that clear, established legal standard, Applicant respectfully submits that Malkamaki fails to anticipate any of independent claims 1, 8, and 15.

Regarding claim 1, Malkamaki does not disclose selectively gating a physical layer radio channel to provide ACK and NACK indications responsive to the receipt of data frames from a mobile station. Thus, Malkamaki cannot be argued as teaching the further limitation of claim 1, wherein the physical layer radio channel is gated on to provide one of an ACK and a NACK indication to a mobile station, and gated off to provide the other one of the ACK and NACK indications to the mobile station.

The first paragraph of p. 3 in the OA appears to argue that OOK type keying (ON/OFF Keying) as taught in Malkamaki teaches the claim 1 limitation of "selectively gating a physical layer radio channel to provide ACK and NACK indications...." This assertion is in error. First, Malkamaki discusses on-off keying only at col. 3, lines 36-56, and nowhere in that section does Malkamaki state that the contemplated on-off keying is accomplished by gating a physical layer radio channel as claimed by Applicant. Indeed, there is much in Malkamaki to suggest otherwise.

For example, Malkamaki does not use the term "physical layer" or the word "physical" even once anywhere in its specification and drawings. Malkamaki does use the term "radio

channel,” but only in its most generic sense. For example, in the claims—see, e.g., claims 1 and 2—and in the specification, Malkamaki uses the term “radio channel” generically and broadly to refer to both uplink (mobile to base station) and downlink (base station to mobile) transmissions and makes no distinction between logical layer and physical layer radio channels. Thus, the disclosure of Malkamaki cannot be argued as teaching physical layer radio channel gating, nor can such teaching be argued as inherent in Malkamaki.

Malkamaki does discuss at the top of col. 5 the concept of making power threshold measurements in the context of ACK signaling, but Malkamaki is silent as to whether this refers to sending or not sending modulated data (bit sequences) or some other form of gating. For example, Malkamaki repeatedly describes on-off information types to denote logical 0 and logical 1 type information transmissions—see e.g., Abstract, col. 1, line 19, and col. 2, line 37. Those teachings link directly to col. 3, lines 58-67, which discuss sending on-off type information in time-division multiple access (TDMA) slots. Nowhere is it suggested that any physical layer radio channel supporting TDMA transmissions is turned off, and the Patent Office appears to be impermissibly going beyond what is explicitly and implicitly taught by Malkamaki in making such an assertion.

Further, the rejection argument is inconsistent and formed from conflicting teachings in Malkamaki. For example, in arguing that the selective gating limitation of claim 1 is taught by Malkamaki, the OA refers to Malkamaki’s OOK teachings. Contradictorily, when arguing that Malkamaki teaches the particular claimed limitations of gating a radio channel on for one of an ACK and NACK indication, and gating the radio channel off for the other one of the ACK/NACK indications, the OA refers to Malkamaki’s teachings at col. 3, lines 44-51, relating to the use of alternate ACK/NACK bit sequences. According to those teachings Malkamaki must transmit a first bit sequence to indicate ACK and transmit a second, distinct bit sequence to indicate a NACK. By definition, these actions involve actively transmitting something, irrespective of

whether an ACK is sent, or a NACK is sent. More critically, such actions cannot be understood as gating a physical layer radio channel on for an ACK or NACK, and off for the other one of the ACK or NACK.

Regarding independent claim 8, Applicant submits that it is not anticipated by Malkamaki for at least the above reasons given in support of claim 1. (The rejection arguments appearing on p. 4 of the OA refer to the same sections of Malkamaki as cited against claim 1, and rejection arguments are substantially the same as made against claim 1.) Further, Applicant submits that it is improper for the OA to state that the “control unit” of claim 8 is found inherently in Malkamaki. Malkamaki indeed may inherently have some form of control unit. However, the control unit at issue is the one explicitly claimed in claim 8, including the limitations of a control unit that gates a physical layer radio channel to send ACK/NACK indications. Malkamaki does not teach gating a physical layer radio channel within the meaning of Applicant’s claims, and it is improper to argue that a control unit performing the claimed functions is inherent within Malkamaki.

Further, claim 15, which is an independent method claim having physical layer on/off gating limitations similar to those in claim 1, and is allowable of Malkamaki for at least the reasons given herein for claim 1. Note, too, that Applicant amended claim 15 to include the counter on/off limitations of claims 16 and 17, thereby making clear that the physical layer radio channel of claim 15 was gated on to provide one of the ACK and NACK indications, and gated off to provide the other one of the ACK and NACK indications.

Thus, for at least the reasons given above, claims 1-6, 8-13, and 15-20 are believed to be patentable over Malkamaki. Reconsideration as such is respectfully requested.

Claims 7, 14, and 21 are not obvious

The OA rejects claims 7, 14, and 21 under 35 U.S.C. § 103(a) as obvious over Malkamaki, in view of Mouldsley (U.S. Patent No. 7,124,343). Applicant submits that the Patent

Office has not carried its legal burden of establishing a prima facie case for obviousness, not least because Malkamaki, the primary 103 reference, does not anticipate the independent claims from which claims 7, 14, and 21 depend.

As their base claims patentably define over Malkamaki, so, too, do these dependent claims define over Malkamaki, taken alone or in any combination with Mousley. Put simply, Malkamaki does not appear to disclose selectively gating a physical layer radio channel on and off within the meaning of Applicant's claims. Nor does Mousley appear to provide such teachings. Indeed, the OA does not allege that Mousley provides the claimed physical layer radio channel gating; rather, Mousley is used only for its teaching that an ACK or NACK may be repeated. The claimed repeating of ACK/NACK indications in claims 7, 14, and 21 are based on the selective gating claimed in the related independent claims, and that feature does not appear to be taught by either Malkamaki or Mousley.

Claim amendments

Applicant appreciates the examiner finding the incorrect dependency appearing in claim 14. As recognized by the examiner, claim 14 obviously was intended to depend from claim 8 and appropriate correction is made herein.

As further informality corrections, Applicant amends claim 1 to read "A signaling method..." rather than "An signaling method...." The identical correction appears in claim 15, as well.

Further, Applicant amends claim 15 to include limitations wherein the claimed physical layer radio channel is gated on to provide one of the ACK and NACK indications, and is gated off to provide the other one of the ACK and NACK indications. As this essentially amounts to incorporating the limitations of claims 16 and 17 into claim 15, Applicant corresponding cancels claims 16 and 17.

Finally, Applicant adds three new dependent claims 22, 23, and 24, one for each of three independent claims. These new dependent claims are fully supported by the specification as filed, and no new matter is added. Each new claim includes limitations identifying the physical layer radio channel being selectively gated in the independent claims as a forward common power control channel. Further, the new dependent claims each include limitations to defining an ACK subchannel on the forward common power control channel, and correspondingly sending ACK/NACK indications (rather than power control bits) in power control group slots allocated to the ACK subchannel.

Specification amendments

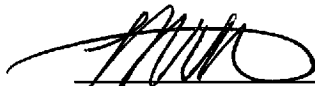
Applicant submits herewith minor typographical corrections to the specification. As is self-evident from the marked-up specification paragraphs included in this response, these corrections merely address obvious informalities, and add no new matter.

Closing

In view of the foregoing arguments and evidence, Applicant respectfully submits that all pending claims patentably define over the cited references, taken alone or in any combination. As such, Applicant requests favorable reconsideration of all pending claims.

Respectfully submitted,

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